UNITED STATES DEPARTMENT OF COMME
National Telecommunications and
Information Administration
Washington, D C 20230

DOCKET FILE COPY ORIGINAL

ET Doc No. 02-305

April 6, 2001

Mr Bruce Franca
Acting Chief, Office of Engineering and Technology
Federal Communications Commission
445 12th Street, S W
Washington, DC 20554

Dear Mr Franca

The National Telecommunications and Information Administration (NTIA) previously requested the deletion of the non-Federal Government radionavigation service allocation in the 31 8-32 3 GHz range to protect the National Aeronautics and Space Administration (NASA) space research operations at Goldstone, California The Commission addressed this issue in a rulemaking (ET Docket No 98-[illegible]) and deleted the non-Federal Government radionavigation service allocation The 32-33 GHz band is currently allocated to the inter-satellite service (ISS) (Federal Government and non-Federal Government) and the radionavigation service (Federal Government only) by table entry in the National Table of Frequency Allocations, and to the space research service (deep space) (Federal Government only) by footnote US262 NTIA intends to delete the Federal Government ISS allocation in the 32 0-32 3 GHz band to further protect the NASA Goldstone facility, and requests the Commission to similarly delete the non-Federal Government allocation in that band

NASA has identified a further potential for interference to its space research service operations in the 32 0-32 3 GHz band by future use of inter-satellite service links in this band The International Telecommunication Union's ITU-R Recommendation SA 1016 has documented that space research service (space-to-Earth, deep space) operations sharing with either ISS operations or airborne elements of the radionavigation service is not feasible

Signals received on Earth from spacecraft in deep space are extremely weak, and highly susceptible to interference of all kinds In particular, the presence of near-earth air-and-spaceborne interference sources easily overwhelm the desired signals from deep space Large space research earth station antennas, fitted with cryogenic preamplifiers and specialized receivers, are required to successfully communicate with spacecraft operating in deep space regions These earth stations are usually sited to provide shielding from potentially interfering terrestrial sources However, such isolation is not possible in the case of orbiting spacecraft sharing the same frequency band with space research service (deep space) operations

To satisfy present and future scientific data return requirements, NASA is placing heavy reliance on space-to-Earth links in the 31.8-32.3 GHz bands. Improved performance for deep space links employing area-limited antennas accrue at frequencies higher than the traditional 2 and 8 GHz space research service space-to-Earth bands because of increased directivity. Propagation is also improved as a result of decreased effects of charged particles in the interplanetary regions. The improved link performance in this band enables increased data transmission rates, thus increasing the efficiency of deep space operations.

Currently, NASA has three operational spacecraft using the 32 GHz band: Surfsat, the Mars Global Surveyor, and the large international Cassini spacecraft, all of which have data return links in the 32 GHz band. The space agencies of other administrations are also studying the use of the 32 GHz band for those missions requiring wider bandwidth than achievable in the 2 and 8 GHz bands. In light of this, NTIA believes that the ISS allocation should be removed from the National Table of Frequency Allocations for both the Federal Government and non-Federal Government.

Therefore, NTIA requests that the Commission initiate rulemaking to delete the non-Federal Government ISS allocation in the 32.0-32.3 GHz band. NTIA will initiate the removal of the Federal Government allocation for ISS. Additionally, we are proposing a modification to footnote US278 and the addition of a new US footnote that will parallel S5.548. A revised allocation table, including footnotes changes, is at the enclosure.

Sincerely,

William T. Hatch
Associate Administrator
for Spectrum Management

Enclosure

Enclosure

International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non Federal Government	
32-32.3 FIXED S5.547A INTER-SATELLITE RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) S5.547 S5.547C S5.548			32-32.3 ~~INTER-SATELLITE US278~~ RADIONAVIGATION US69 SPACE RESEARCH (deep space) (space-to-Earth) US262 ~~S5.548~~ USXXX	32-32.3 ~~INTER-SATELLITE US278~~ SPACE RESEARCH (deep space) (space-to-Earth) US262 ~~S5.548~~ USXXX	
32.3-33 FIXED S5.547A INTER-SATELLITE RADIONAVIGATION S5.547 S5.547D S5.548			32.3-33 INTER-SATELLITE MOU US278 RADIONAVIGATION US69 ~~S5.548~~ USXXX		Aviation (87)
33-33.4 FIXED S5.547A RADIONAVIGATION S5.547 S5.547E			33-33.4 RADIONAVIGATION US69		
33.4-34.2 RADIOLOCATION S5.549			33.4-36 RADIOLOCATION US110 G34	33.4-36 Radiolocation US110	Private Land Mobile (90)
34.2-34.7 RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) S5.549					
34.7-35.2 RADIOLOCATION Space research S5.550 S5.549					
35.2-35.5 METEOROLOGICAL AIDS RADIOLOCATION S5.549					

UNITED STATES (US) FOOTNOTES

US262 The use of the band 31.8-32.3 GHz by the space research service (deep space) (space-to-Earth) is limited to Goldstone, California

MOD **US278**--In the 22.55-23.55 and 32.3-33 GHz bands, non-geostationary inter-satellite links may operate on a secondary basis to geostationary inter-satellite links

ADD USXXX -- In designing systems for the inter-satellite service in the 32.3-33 GHz band, for the radionavigation service in the 32-33 GHz band, and for the space research service (deep space) in the 31.8-32.3 GHz band, all necessary measures shall be taken to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service

UNITED STATES DEPARTMENT OF COMMER
National Telecommunications and
Information Administration
Washington, D.C. 20230

DATE April 3, 2001

MEMORANDUM FOR: Executive Secretary, IRAC

FROM: Bill Hatch

SUBJECT: Revision to Chapter 4, NTIA Manual

Reference: IRAC Doc. No. 31819/1

The IRAC has recommended that the Federal Government allocation for inter-satellite service be removed from the 32.0-32.3 GHz band to protect the NASA deep space facility at Goldstone, California. Upon review, I have approved this recommendation, and direct that the Federal Government inter-satellite service allocation be removed from the U.S. Government Table of Frequency Allocations as shown in the NTIA Manual, in accordance with the referenced IRAC document. Subsequent to rulemaking by, and coordination with the FCC, the corresponding footnote US 278 will be modified and a new footnote (USXXX) will be added.